a little on a subject in hand, but *n'importe*), "A. B.," "G. R. C.," "Constant Subscriber" (there is, or was, one of the bell-indices, so to call it, at the Society of Arts, Adelphi), "A Youngster" (apply to Ly, Hanover-square, London), "X. Y. Z." (ditto), "J. M'D." (ditto), "Working School" (we are unable to re-commend a school), "Rev. J. L. P.," "Dr. M.," "Subscriber," "M. A. A.," "J. M." (a reminiscence of the duties may be obtained: the committee are entitled to the advantage), "Ingenieur," "J. H." (declined with thanks), "W. C. F." (steeping in lime water, or anointing with oil is considered useful), "W. C." (there are no arbitrary proportions), "S. E. P." (Peel's Coffee-house, Fleet-street, or the Hall of Commerce), "Abquis" (next week).—"Contractors' and Builders' Pocket Guide," by E. V. Gardner, second edition (Testimony and Snowdon); "Is Cholera Contagious or not?" by W. Reid, M.D. (London, Highley); "The Westminster Review," "Blackwood," "Anglo-Jewish Magazine," "Dolman's," "Man in the Moon," "Milner's Atlas of Astronomy" (part 6); "Companion to the Builder's Friend, by Henry Fitzgerald, being the last Last of Sawyers' Prices of Work, as agreed between Masters and Men in London" (Purdy, Yarmouth).

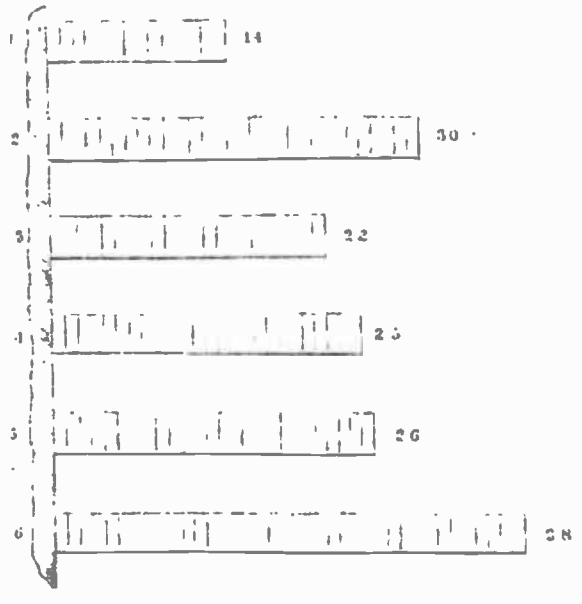
"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

[Advertisement.]

THE STRENGTH OF PORTLAND CEMENT.

MESSRS. ROBINS, ASPDIN and Company announce the result of the *public experiments* made with their Portland Cement, in the presence of many professional and scientific gentlemen, at Scotland-yard, on Monday, the 18th ult., and by adjournment at Messrs. Robinson and Sons (late Bramah and Robinson), engineers, Pimlico, on Tuesday, the 26th ult.

First Series of Trials.



No. 1. All Cement.—14 bricks bore a weight of 9 cwt. for some minutes, a small additional weight being added, broke in the brick.

No. 2. 1 Cement to 1 Sand.—30 bricks, with 8 lb. weight on the last brick, stood till 7 lb. weight added, when the bricks broke in three places.

No. 3. 1 Cement, 2 Sand.—22 bricks, broke in the bricks, after weights to the amount of 168 lbs. put on the 22nd brick.

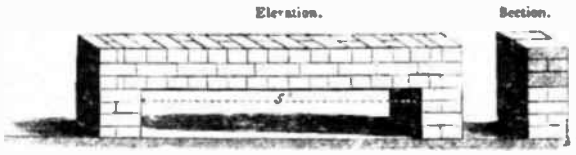
No. 4. 1 Cement, 4 Sand.—25 bricks, sustained 56 lb. on the 25th brick till brick broke.

No. 5. 1 Cement, 5 Sand.—26 bricks, 56 lb. put on the 26th brick, stood 15 minutes, the weight increased to 74 lb., when a brick broke, with slight accidental pressure.

No. 6. All Cement.—38 bricks, with weight on 38th, equal in all to 40 bricks, broke in the brick, with small additional weight.

Second.

Brick beam, three courses deep, tested on 27th day after formation.



All Cement.—Loaded by degrees with 58 cast-iron bars, or 2 tons 18 cwt., when the bricks broke across in two places. A fragment picked up consisted of a splinter from four bricks, with the cement like stone, combining them in a cruciform shape.

1 Cement, 3 Sand.—Split partially in the bricks under a weight of 47 cwt.. but did not break down till struck repeatedly with a sledge hammer.

1 Cement, 5 Sand.—Weight on the beam 31 cwt.

1 Cement, 6 Sand.—Weight on the beam 21 cwt., it broke in six out of nine bricks, having been accidentally struck.

Third.

Two pieces of the best Portland stone, united with Portland Cement, the stones being 2 feet long by 9 inches broad in superficies, having been cemented together for twenty-eight days, the whole slung on a bearing 3 feet 6 inches across, between two pairs of dogs or nippers, with a weight scale below, in an elevation of 11 feet in height.

The stone scaled and broke under a weight of 38 cwt., the lower stone leaving the cement nearly entire, with a stony scaling over its surface above.

Fourth, tested by Bramah's Hydraulic Press.

A small piece of *Pure Cement*, 1¼ inch surface by 1 inch, six months old, and laid on its inch surface, withstood pressure till partially crushed at 18 tons 3 cwt.

A small piece of *Portland stone* of the same size, crushed under a pressure of 23 cwt.

Blocks of cement and cement and sand.

18 inches long × 9 × 9 inches, placed vertically.

All Cement.—Twenty-eight days old; pressure, 58½ tons.

1 Cement, 1 Sand.—Do.; pressure, 47 tons.

The hydraulic press not being powerful enough to test the strength of the pure cement and its slighter mixture with sand, the meeting was adjourned till the 26th ult., when one of the previous blocks, all cement, then thirty-five days old, bore a pressure of 68 tons, when it cracked at one angle, but ultimately bore a pressure of 90 tons previous to its breaking down.

An exactly similar block bore 104 tons.

Another block of the same size and age, bore a pressure of *one hundred and forty-one tons*, and stood under such pressure upwards of a minute, when it broke up with a report!!

The block, 1 cement and 1 sand, previously submitted to a pressure of 47 tons, now cracked or severed in the centre at that pressure. the two pieces ultimately bore a pressure of 108 tons before breaking down, the form of the crack not altering.

Certificates, signed by many highly respectable professional and scientific gentlemen present at the trials, may be seen at the Counting-houses, Great Scotland-yard, Whitehall.

Messrs. Robins, Aspdin, and Company submit the foregoing experiments and tests to the public, without deeming it necessary to make any comment or observations beyond referring them to the experiments on the strength of cements, published in THE BUILDER on the 15th and 22d days of July last, by comparison with which the great superiority of Robins, Aspdin, and Company's Portland Cement will be manifest and apparent.

ADVERTISEMENTS.

J. MASON begs to call the attention of the Bentley and Gentry to his superior Collection of Terrace Panels, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consoles, Chimney Shafts, and other Ornamentals, &c. Coats of Arms finished in a superior manner, all at half the usual price.—35, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

TO BUILDERS, ARCHITECTS, AND THE TRADE.
WROUGHT-IRON LANCASHIRE HINGES of every description supplied at the lowest prices by JOHN SUMNER, Hinge Manufacturer, Ashton, near Warrington.
. Lists of prices forwarded on application.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.
RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O G Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Nosh Weights, and other Castings from Work for Bakers' Ovens of every description, fitted complete, to be laid in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

TO BUILDERS AND OTHERS.
RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, railing bars, sash and stable traps and gratings, air bricks, close and open coal plates, area grates, tile lights, balcony panels, barrow wheels, &c. CAST and WATER-PIPES, heads, branches, Tar pieces, syphons, and lamp columns; also hot-water pipes for heating buildings and hot-houses, and FLANGE PIPES, with all the usual connections. A large stock of the above CASTINGS at very low prices, at JONES'S, Iron Bridge Wharf, No. 6, Bankside, Southwark.

LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes, PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Lamps, Lamp Crosses, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Pump Backs and Trunks, Rain Water Pipes and Gutters, sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
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JOSEPH GLOVER,
Solicits the attendance of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Patterns and Steam Engine Patterns, Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Stove Bars, particularly suitable for internal work, having perfectly square and not unsightly EDGES shown for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
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For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Sugar Refining and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE PIPES are made to stand hot brewers' and bottle washers' heat—do not become hard or stiff in any temperature that are always perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass couplings, copper branch and rose complete, ready to be attached to pumps, water butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Gerrard mews, Gerrard-road, Isledon.
N.B. Vulcanized India-rubber washers of all sizes for joints of hot water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

GALVANIZED IRON FOR ROOFING, &c. The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than lead, tin, or any other metal, calculating weight and strength. This fire proof material has been used for roofing the new Houses of Parliament, shipbuilding and timber sheds in her Majesty's dock-yards at Deptford, Woolwich, Chatham, and Portsmouth, and at many of the principal Railway stations, and works, &c. &c. The material is also admirably adapted for the construction of conservatories, fire-proof buildings, chain and wire rope bridges, corrugated doors, sheathing, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 3, Mansion House Place, City.—London Works at Millwall, Poplar, Middlesex. Broad-street, Birmingham, Cobden's Hall, near Dudley.

TO ARCHITECTS AND BUILDERS.
CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES for strong Rooms. A large stock of the above, of all sizes made in the best manner, and of the most approved pattern with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

TO THE PUBLIC.
CAUTION to Purchasers of FIRE-PROOF DOORS for strong Rooms, Safes, Chests and Detector Locks, &c. &c. LEADBEATER, sole manufacturer for Chubb.
LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes, STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive much nery," which is supported by some interested makers, at least be paid for: at prices 30 per cent. under any other house in London.
LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong-room doors and safes have now been put up with not a SINGLE COMPLAINT, and fifteen years practical experience during which he has adapted every possible improvement to real security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof folding doors with ventilating gates, made expressly for a bankers strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron inlaying frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 8 feet high by 3 feet 6 inches wide and upwards, price 10l. each, always on hand at LEADBEATER'S MANUFACTORY, 28, ALDERSGATE-STREET, LONDON.

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